



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id

6

Component

Diesel Engine

Fluid

DIESEL ENGINE OIL SAE 40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013566	KL0013291	KL0013244
Sample Date		Client Info		01 Mar 2024	15 Jan 2024	15 Nov 2023
Machine Age	hrs	Client Info		0	8473	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	20	13	80
Chromium	ppm	ASTM D5185m	>20	<1	<1	2
Nickel	ppm	ASTM D5185m	>4	<1	0	2
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	2	2
Lead	ppm	ASTM D5185m	>40	1	<1	4
Copper	ppm	ASTM D5185m	>330	3	4	8
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

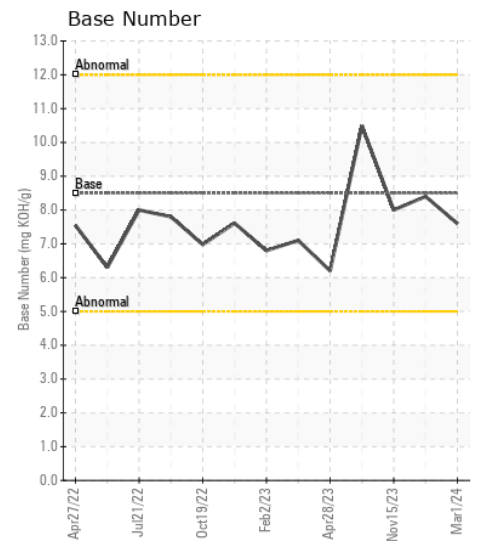
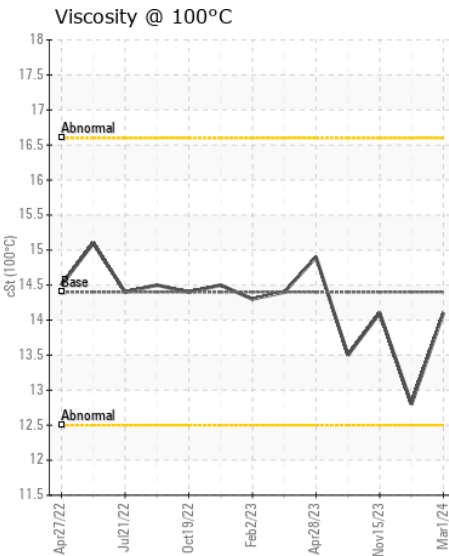
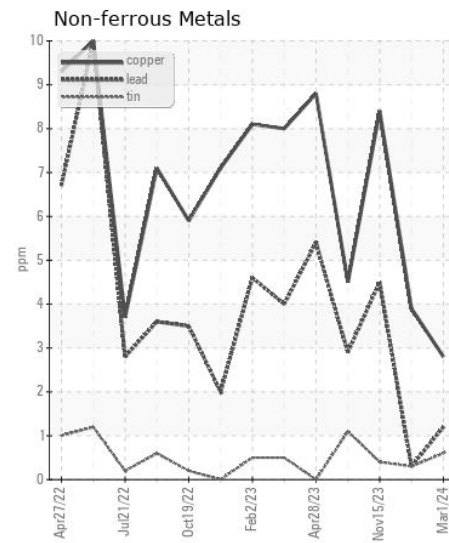
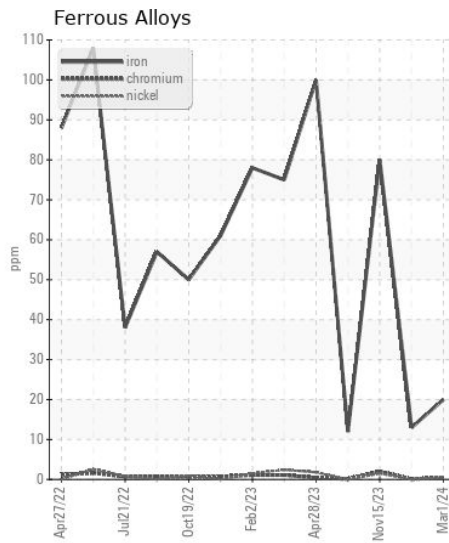
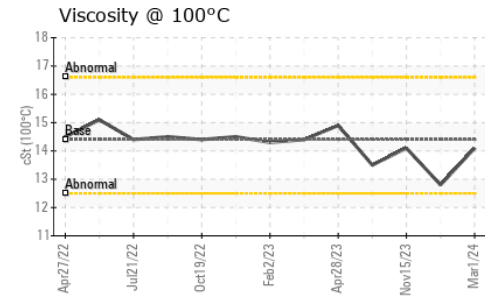
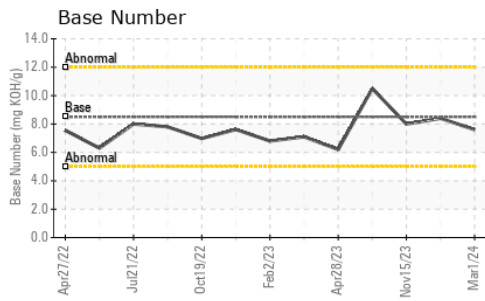
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	5	6
Potassium	ppm	ASTM D5185m	>20	3	5	0
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.2	1.6
Nitration	Abs/cm	*ASTM D7624	>20	8.9	6.8	13.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.5	18.5	29.2
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	2	7	3
Boron	ppm	ASTM D5185m	250	74	45	32
Barium	ppm	ASTM D5185m	10	2	0	0
Molybdenum	ppm	ASTM D5185m	100	83	91	79
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	191	557	581
Calcium	ppm	ASTM D5185m	3000	2204	1503	1764
Phosphorus	ppm	ASTM D5185m	1150	998	965	1118
Zinc	ppm	ASTM D5185m	1350	1279	1112	1417
Sulfur	ppm	ASTM D5185m	4250	5134	3799	3664
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.4	13.8	26.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.6	8.4	8.0
Visc @ 100°C	cSt	ASTM D445	14.4	14.1	12.8	14.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : KL0013566

Lab Number : 06125407

Unique Number : 10939558

Test Package : FLEET

Received : 21 Mar 2024

Tested : 22 Mar 2024

Diagnosed : 22 Mar 2024 - Wes Davis

UNITED SALT

1434 POTASH MINES RD

CARLSBAD, NM

US 88220

Contact: GERALD GOAD

ggoad@unitedsalt.com

T:

F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)